

What is claimed is:

- 1    1.    A system, comprising:  
2            a non volatile memory in which is stored an error handling routine, said error  
3 handling routine to permit a computer system to continue operating when an error is  
4 detected; and  
5            a plurality of processors included in the computer system, wherein each  
6 processor is capable of accessing the error handling routine on detecting an error  
7 and signaling the remaining processors of the plurality of processors to enter a  
8 rendezvous state.
- 1    2.    The system of claim 1, wherein the error is only correctable by entering the  
2 rendezvous state.
- 1    3.    The system of claim 1, further comprising a processor abstraction layer  
2 located in the non volatile memory, wherein the processor abstraction layer includes  
3 the error handling routine.
- 1    4.    The system of claim 1, further comprising a system abstraction layer located  
2 in the non volatile memory, wherein the system abstraction layer includes the error  
3 handling routine.
- 1    5.    A system, comprising:  
2            a non volatile memory to store an error handling routine and an idle routine,  
3 said error handling routine to permit a computer system to continue operating when  
4 an error is detected;  
5            a plurality of slave processors to execute the idle routine, wherein the  
6 plurality of slave processors are included in the computer system; and  
7            a monarch processor included in the computer system, the monarch  
8 processor being capable of executing the error handling routine to correct the error.

1 6. The system of claim 5, wherein the error handling routine is included in a  
2 system abstraction layer.

1 7. The system of claim 5, wherein the monarch processor is capable of sending  
2 a wake up signal to the plurality of slave processors to exit the rendezvous state.

1 8. A system, comprising:  
2 a plurality of processors including a monarch processor;  
3 a processor abstraction layer coupled to the plurality of processors;  
4 a system abstraction layer coupled to the processor abstraction layer;  
5 an operating system layer coupled to the system abstraction layer; and  
6 an interrupt signaling mechanism coupled to the processor abstraction layer,  
7 the system abstraction layer, and the operating system layer to initiate a rendezvous  
8 state and to end the rendezvous state, said rendezvous state being a state where all of  
9 the plurality of processors but the monarch processor are idle.

1 9. The system of claim 8, further comprising a system memory and a non  
2 volatile memory, wherein the operating system layer is located in the system  
3 memory and capable of being executed by the plurality of processors, the processor  
4 abstraction layer is located in the non volatile memory and is capable of being  
5 executed by the plurality of processors, and the system abstraction layer is located in  
6 the non volatile memory and is capable of being executed by the plurality of  
7 processors.

1 10. The system of claim 8, wherein the monarch processor is capable of  
2 executing an error handling routine included in the system abstraction layer upon  
3 initiation of the rendezvous state.

1 11. The system of claim 8, wherein the processor abstraction layer includes a  
2 functional module for error handling.

1 12. A system, comprising:  
2 a plurality of processors;  
3 a processor abstraction layer located in a non volatile memory coupled to the  
4 plurality of processors;  
5 a system abstraction layer located in the non volatile memory; and  
6 an operating system layer located in a system memory coupled to the  
7 plurality of processors to signal all but one of the plurality of processors to end a  
8 rendezvous state upon receiving a signal that error handling is completed, said  
9 rendezvous state being a state wherein all but the one of said plurality of processors  
10 are idle.

1 13. The system of claim 12, wherein the signal from the operating system to end  
2 the rendezvous state is an interrupt.

1 14. The system of claim 12, wherein the processor abstraction layer is capable of  
2 sending a signal to the system abstraction layer to enter the rendezvous state and  
3 performing error handling upon entering the rendezvous state.

1 15. A method, comprising:  
2 detecting an error by one processor included in a multiple processor system;  
3 entering a rendezvous state in which all processors but the one processor  
4 included in the multiple processor system are idle;  
5 correcting the error using the one processor; and  
6 resuming normal operation.

1 16. The method of claim 15, wherein entering the rendezvous state comprises:  
2 requesting a plurality of processors included in the multiple processor  
3 system to enter an idle state; and  
4 waiting until the plurality of processors have entered the idles state.

1 17. The method of claim 15, further comprising:

2           determining if the error is a severe error; and  
3           only upon determining that the error is a severe error, entering the  
4 rendezvous state.

1   18.   A method, comprising:  
2           attempting to correct an error by a detecting processor included in a multiple  
3 processor system;  
4           on failure, executing firmware code operatively coupled to all the processors  
5 included in the multiple processor system to correct the error; and  
6           on failure, entering a rendezvous state to correct the error, said rendezvous  
7 state being a state where all but one of the processors included in the multiple  
8 processor system are idle.

1   19.   The method of claim 18, wherein entering a rendezvous state to correct the  
2 error comprises:  
3           selecting a monarch processor from the processors included in the multiple  
4 processor system;  
5           signaling slave processors included in the multiple processor system to  
6 execute a spin loop; and  
7           correcting the error by the monarch processor.

1   20.   The method of claim 19, wherein correcting the error by the monarch  
2 processor includes executing routines in a processor abstraction layer, a system  
3 abstraction layer, and an operating system.

1   21.   A method, comprising:  
2           attempting to correct an error by a processor included in a plurality of  
3 processors;  
4           accessing a routine in a first firmware layer to correct the error;  
5           selecting a monarch processor included in the plurality of processors;

6           executing a spin loop routine in a second firmware layer by the plurality of  
7 processors except the monarch processor;  
8           accessing a routine in the second firmware layer to correct the error; and  
9           resuming normal operation by the plurality of processors.

1   22.    The method of claim 21, wherein selecting a monarch processor comprises  
2 determining which processor included in the plurality of processors can best correct  
3 the error.

1   23.    The method of claim 21, further comprising:  
2           determining whether the error is severe.

1   24.    An article comprising a machine-accessible medium having associated data,  
2 wherein the data, when accessed, results in a machine performing:  
3           attempting to correct an error by a detecting processor included in a multiple  
4 processor system;  
5           on failure, executing firmware code operatively coupled to all the processors  
6 included in the multiple processor system to correct the error; and  
7           on failure, entering a rendezvous state to correct the error, said rendezvous  
8 state being a state where all but one of the processors included in the multiple  
9 processor system are idle.

1   25.    The article of claim 24, wherein the rendezvous state is a state wherein all  
2 but the one of the processors included in the multiple processor system are  
3 executing a spin loop.

1   26.    The article of claim 24, wherein the data, when accessed, results in the  
2 machine performing:  
3           informing a processor abstraction layer when all but the one of the  
4 processors included in the multiple processor system have entered the idle state.